

ABSTRACT

Disclosed herein is an optical pick-up apparatus using a holographic optical element and method of forming holographic gratings of the element. The apparatus includes a light emitting element for generating three beams with different wavelengths, a multiplexed holographic optical element provided with three holographic gratings for receiving beams reflected from an optical disc and diffracting the received beams according to wavelengths of the received beams, and a light receiving element for receiving beams diffracted while passing through the multiplexed holographic optical element. The method includes the steps of forming a first holographic grating on a transparent substrate, forming a first transparent layer on the substrate on which the first holographic grating is formed, forming a second holographic grating on the first transparent layer, forming a second transparent layer on the first layer on which the second holographic grating is formed, and forming a third holographic grating on the second layer.